Listing of Claims:

1. (Original) A specimen position sensing, edge-gripping device that is adapted for operative coupling to a mechanism and gripping a specimen by its peripheral edge, comprising:

a body having a support surface, a proximal end, and a distal end, the distal end including two spaced-apart distal projections;

a light source operatively connected to the body and including a source light path opening and a light receiver including a receiver light path opening, the source light path opening and the receiver light path opening positioned at different ones of the two spaced-apart distal projections and dimensioned to form between the light path openings a light transmission pathway along which a light beam of known beam shape propagates from the light source to the light receiver, the light transmission pathway being of sufficient length to detect an interruption of the light beam caused by a specimen positioned in proximity to the body and within a predetermined distance relative to a spatial reference;

a distal pad portion operatively connected to the body near the distal end at each of the distal projections to support the peripheral edge of the specimen and a distal backstop portion associated with the distal pad portion at each of the distal projections, the distal pad and distal backstop portions at each of the distal projections having respective distal pad and distal backstop specimen contacting surfaces that form a recess into which the peripheral edge of the specimen can be urged to grip the specimen; and

a specimen contact mechanism that is actuatable between a specimen-releasing position and a specimen-securing position, the specimen-releasing position providing sufficient clearance for the specimen to rest on the distal pad specimen contacting surfaces and the specimen-securing position urging the peripheral edge of the specimen into the recess formed by the distal pad and distal backstop specimen contacting surfaces at each of the distal projections.

2. (Original) The specimen position sensing, edge-gripping device of claim 1, further comprising a proximal pad portion operatively coupled to the body near the proximal end to support the peripheral edge of the specimen, the proximal pad portion having a proximal pad specimen contacting surface on which to rest the peripheral edge of the specimen.

3. (Original) The specimen position sensing, edge-gripping device of claim 2, in which the specimen contact mechanism includes a proximal end contact point having a

face portion that is inclined to impart to the specimen a motive force component directed toward the proximal pad specimen contacting surface.

4. (Original) The specimen position sensing, edge-gripping device of claim 2, in which each of the proximal and distal pad specimen contacting surfaces is made of a material that is different from the material of which the body is made.

5. (Original) The specimen position sensing, edge-gripping device of claim 4, in which the material of which each of the proximal and distal pad specimen contacting surfaces is made includes polyetheretherketone.

6. (Original) The specimen position sensing, edge-gripping device of claim 2, in which the proximal and distal pad portions are attached to the support surface.

7. (Original) The specimen position sensing, edge-gripping device of claim 2, in which the proximal and distal pad specimen contacting surfaces are inclined relative to the support surface.

8. (Original) The specimen position sensing, edge-gripping device of claim 2, in which the proximal pad specimen contacting surface is inclined in a direction relative to the support surface.

9. (Original) The specimen position sensing, edge-gripping device of claim 1, in which the distal pad and the distal backstop portions at each of the distal projections are associated such that they form a unitary structure.

10. (Previously presented) The specimen position sensing, edge-gripping device of claim 1, in which the specimen is made of a particular material and in which each of the distal pad specimen contacting surfaces is made of a material that restricts, to within acceptable limits for the particular specimen material, contamination generated as the peripheral edge of the specimen is urged into the recess formed at each of the distal projections.

11. (Original) The specimen position sensing, edge-gripping device of claim 10, in which the material of which each of the distal pad specimen contacting surfaces is made includes polyetheretherketone.

12. (Original) The specimen position sensing, edge-gripping device of claim 1, in which the specimen contact mechanism is located nearer to the proximal end than to the distal end of the body.

13. (Original) The specimen position sensing, edge-gripping device of claim 1, in which the source light path opening and the receiver light path opening are positioned on

the body farther from the proximal end than are the distal pad portions at the distal projections.

14. (Original) The specimen position sensing, edge-gripping device of claim 1, in which the distal pad specimen contacting surface at each distal projection is inclined in a direction relative to the support surface such that the peripheral edge of the specimen at rest on the distal pad specimen contacting surface moves away from the support surface in response to a motive force urging the peripheral edge of the specimen into the recess.

15. (Original) The specimen position sensing, edge-gripping device of claim 1, in which the distal backstop and distal pad specimen contacting surfaces at each distal projection form a generally perpendicular angle.

16. (Original) The specimen position sensing, edge-gripping device of claim 1, in which the specimen contact mechanism comprises a specimen contact actuator that includes a biasing device and a force applying device, the biasing device applying a biasing force to urge the specimen contact mechanism to the specimen-securing position and the force applying device selectively overcoming the biasing force to urge the specimen contact mechanism to the specimen-releasing position.

17. (Previously presented) The specimen position sensing, edge-gripping device of claim 16, further comprising a position indicator operatively connected to the specimen contact actuator and operatively associated with a pair of spaced-apart reference position indicating devices, each reference position indicating device monitoring movement of the specimen contact actuator to indicate a specimen-releasing limit position and a specimen-securing limit position with no specimen gripped.

18. (Original) The specimen position sensing, edge-gripping device of claim 1, in which the specimen contact mechanism comprises a specimen contact actuator that includes a biasing device applying a biasing force to cause the specimen contact mechanism to attain the specimen-securing position in the absence of facilities to operate the specimen contact mechanism.

19. (Original) The specimen position sensing, edge-gripping device of claim 18, in which the specimen contact actuator further includes a fluidic pressure-controlled device selectively overcoming the biasing force to cause the specimen contact mechanism to attain the specimen-releasing position.

20. (Previously presented) The specimen position sensing, edge gripping device of claim 1, in which at least a portion of the specimen is of arcuate shape, and in which

each of the distal backstop specimen contacting surfaces is of a shape that conforms to a segment of the arcuate portion of the specimen.

21. (Previously presented) The specimen position sensing, edge gripping device of claim 2, in which at least a portion of the specimen is of arcuate shape, and in which each of the distal backstop specimen contacting surfaces is of a shape that conforms to a segment of the arcuate portion of the specimen.

22. (Previously presented) The specimen edge-gripping device of claim 2, in which the specimen has upper and lower surfaces and the distal backstop portion at each of the distal projections has a height, the lower surface being closer than the upper surface to the support surface when the specimen rests on the proximal and distal pad specimen contacting surfaces, and the height of the distal backstop portion at each of the distal projections ranges in size from substantially reaching to not extending substantially beyond the upper surface of the specimen when gripped.

23. (Currently amended) A specimen position sensing, edge-gripping device that is adapted for operative coupling to a mechanism and gripping a specimen by its peripheral edge, comprising:

a body having a support surface, a proximal end, and a distal end, the distal end including two spaced-apart distal projections;

a light source and a light receiver operatively associated with the two spaced-apart distal projections to form along a light propagation path in the space between them a light beam of known beam shape, the space between the two spaced-apart distal projections being sufficiently wide to enable a specimen positioned in proximity to the body and within a predetermined distance relative to a spatial reference to interrupt the light beam;

a distal pad portion operatively connected to the body near the distal end at each of the distal projections to support the peripheral edge of the specimen and a distal backstop portion associated with the distal pad portion at each of the distal projections, the distal pad and distal backstop portions at each of the distal projections having respective distal pad and distal backstop specimen contacting surfaces ~~that form a recess into~~ against which the peripheral edge of the specimen can be urged to grip the specimen; and

a specimen contact mechanism that is actuatable between a specimen-releasing position and a specimen-securing position, the specimen-releasing position providing sufficient clearance for the specimen to rest on the distal pad specimen contacting surfaces and the specimen-securing position urging the peripheral edge of the specimen ~~into the~~

~~recess formed by~~ against the distal pad and distal backstop specimen contacting surfaces at each of the distal projections.

24. (Previously presented) The specimen position sensing, edge-gripping device of claim 23, further comprising a proximal pad portion operatively coupled to the body near the proximal end to support the peripheral edge of the specimen, the proximal pad portion having a proximal pad specimen contacting surface on which to rest the peripheral edge of the specimen.

25. (Previously presented) The specimen position sensing, edge-gripping device of claim 24, in which the specimen contact mechanism includes a proximal end contact point having a face portion that is inclined to impart to the specimen a motive force component directed toward the proximal pad specimen contacting surface.

26. (Previously presented) The specimen position sensing, edge-gripping device of claim 24, in which each of the proximal and distal pad specimen contacting surfaces is made of a material that is different from the material of which the body is made.

27. (Previously presented) The specimen position sensing, edge-gripping device of claim 26, in which the material of which each of the proximal and distal pad specimen contacting surfaces is made includes polyetheretherketone.

28. (Previously presented) The specimen position sensing, edge-gripping device of claim 24, in which the proximal and distal pad portions are attached to the support surface.

29. (Previously presented) The specimen position sensing, edge-gripping device of claim 24, in which the proximal and distal pad specimen contacting surfaces are inclined relative to the support surface.

30. (Previously presented) The specimen position sensing, edge-gripping device of claim 24, in which the proximal pad specimen contacting surface is inclined in a direction relative to the support surface.

31. (Previously presented) The specimen position sensing, edge-gripping device of claim 24, in which the light source and the light receiver include, respectively, a source light path opening and a receiver light path opening that face each other, and in which the operative association of the light source and the light receiver with the two spaced-apart distal projections entails different ones of the distal projections including the source light path opening and receiver light path opening.

32. (Previously presented) The specimen position sensing, edge-gripping device of claim 31, in which the light propagation path forms a continuous straight line path between the source light path opening and receiver light path opening.

33. (Previously presented) The specimen position sensing, edge-gripping device of claim 31, further comprising:

first and second light transmission medium channels running from the proximal end to the distal end of the body;

a light source transmission medium routed through the first light transmission medium channel and terminating at the source light path opening; and

a light receiver transmission medium routed through the second light transmission medium channel and terminating at the receiver light path opening.

34. (Previously presented) The specimen position sensing, edge-gripping device of claim 33, in which each of the light source and light receiver transmission media includes an optical fiber.

35. (Previously presented) The specimen edge-gripping device of claim 24, in which the specimen has upper and lower surfaces and the distal backstop portion at each of the distal projections has a height, the lower surface being closer than the upper surface to the support surface when the specimen rests on the proximal and distal pad specimen contacting surfaces, and the height of the distal backstop portion at each of the distal projections ranges in size from substantially reaching to not extending substantially beyond the upper surface of the specimen when gripped.

36. (Previously presented) The specimen position sensing, edge-gripping device of claim 23, in which, at each of the distal projections, the distal pad and the distal backstop portions are associated such that they form a unitary structure.

37. (Currently amended) The specimen position sensing, edge-gripping device of claim 23, in which the specimen is made of a particular material and in which each of the distal pad specimen contacting surfaces is made of a material that restricts, to within acceptable limits for the particular specimen material, contamination generated as the peripheral edge of the specimen is urged ~~into the recess formed~~ against the distal pad and distal backstop specimen contacting surfaces at each of the distal projections.

38. (Previously presented) The specimen position sensing, edge-gripping device of claim 37, in which the material of which each of the distal pad specimen contacting surfaces is made includes polyetheretherketone.

39. (Previously presented) The specimen position sensing, edge-gripping device of claim 23, in which the specimen contact mechanism is located nearer to the proximal end than to the distal end of the body.

40. (Previously presented) The specimen position sensing, edge-gripping device of claim 23, in which the specimen contact mechanism comprises a specimen contact actuator that includes a biasing device and a force applying device, the biasing device applying a biasing force to urge the specimen contact mechanism to the specimen-securing position and the force applying device selectively overcoming the biasing force to urge the specimen contact mechanism to the specimen-releasing position.

41. (Previously presented) A method of removing from a specimen holder a specimen having a peripheral edge, comprising:

providing an end effector that is movable in first and second different directions, the end effector including a support surface and having proximal and distal ends, the support surface having near the proximal end a proximal pad portion and near the distal end a distal pad portion, the proximal and distal pad portions having respective proximal and distal pad specimen contacting surfaces, and the distal pad portion operatively associated with a distal backstop portion having a distal backstop specimen contacting surface, and the end effector including a specimen contact mechanism located nearer to the proximal end than to the distal end and actuatable between a specimen-releasing position and a specimen-securing position established by the peripheral edge of the specimen;

actuating the specimen contact mechanism toward the specimen-releasing position to provide sufficient clearance for placement of the specimen on the proximal and distal pad specimen contacting surfaces;

moving the end effector in the first direction into the specimen holder, the end effector defining a space between the specimen and the proximal and distal pad specimen contacting surfaces;

moving the end effector in the second direction to eliminate the space between the specimen and the proximal and distal pad specimen contacting surfaces and thereby cause the peripheral edge of the specimen to rest on the proximal and distal pad specimen contacting surfaces;

actuating the specimen contact mechanism toward the specimen-securing position to grip the specimen by applying a motive force against the specimen to impart relative motion between it and the proximal and distal pad specimen contacting surfaces and

thereby urge the peripheral edge near the distal end against the distal backstop specimen contacting surface; and

moving the end effector out of the specimen holder to remove the specimen.

42. (Previously presented) The method of claim 41, in which the distal pad specimen contacting surface is inclined in a direction relative to the support surface such that the peripheral edge of the specimen at rest on the distal pad specimen contacting surface moves away from the support surface in response to the motive force applied against the specimen.

43. (Previously presented) The method of claim 42, in which:

the specimen has upper and lower surfaces and the lower surface is closer than the upper surface to the support surface when the specimen is at rest on the proximal and distal pad specimen contacting surfaces; and

the distal pad specimen contacting surface is inclined by an amount that results in substantially no contact between the distal pad specimen contacting surface and the lower surface of the specimen when the specimen contact mechanism urges the peripheral edge near the distal end against the distal backstop specimen contacting surface.

44. (Previously presented) The method of claim 42, in which:

the distal backstop portion is one of multiple distal backstop portions, each of which having a distal backstop specimen contacting surface; and

the distal backstop specimen contacting surfaces are arranged to establish lateral center-positioning of the specimen when the specimen contact mechanism urges the peripheral edge near the distal end against the distal backstop specimen contacting surfaces.

45. (Previously presented) The method of claim 44, in which the distal pad portion is one of multiple distal pad portions, each of which having a distal pad specimen contacting surface that is inclined in a direction relative to the support surface such that the peripheral edge of the specimen at rest on the distal pad specimen contacting surface moves away from the support surface in response to the motive force applied against the specimen.

46. (Previously presented) The method of claim 41, in which:

the specimen has upper and lower surfaces and the distal backstop portion has a height, the lower surface being closer than the upper surface to the support surface when the specimen is at rest on the proximal and distal pad specimen contacting surfaces; and

the height of the distal backstop portion ranges in size from substantially reaching to not extending substantially beyond the upper surface of the specimen when the specimen contact mechanism urges the peripheral edge near the distal end against the distal backstop specimen contacting surface.

47. (Previously presented) The method of claim 41, in which the proximal pad specimen contacting surface is inclined in a direction relative to the support surface such that the peripheral edge of the specimen at rest on the proximal pad specimen contacting surface moves toward the support surface in response to the motive force applied against the specimen.

48. (Previously presented) The method of claim 41, in which the peripheral edge of the specimen includes a segment of arcuate shape, and in which the distal backstop portion has a distal backstop specimen contacting surface of a shape that conforms to the arcuate shape of the segment of the peripheral edge of the specimen.

49. (Previously presented) The method of claim 48, in which the distal backstop specimen contacting surface is of arcuate shape.

50. (Previously presented) The method of claim 41, in which the specimen contact mechanism includes a proximal end contact point having a face portion that is inclined to impart to the specimen a motive force component directed toward the proximal pad specimen contacting surface.

51. (Previously presented) The method of claim 41, in which the first and second directions are perpendicular to each other.

52. (Previously presented) The method of claim 41, in which the moving of the end effector in the first direction into the specimen holder positions the distal backstop specimen contacting surface in spaced-apart relationship from the peripheral edge of the specimen.

53. (Previously presented) The method of claim 41, in which each of the proximal and distal pad specimen contacting surfaces is made of a material that is different from the material of which the support surface is made.

54. (Previously presented) The method of claim 53, in which the material of which each of the proximal and distal pad specimen contacting surfaces is made includes polyetheretherketone.

55. (Previously presented) The method of claim 53, in which the proximal and distal pad portions are attached to the support surface.

56. (Previously presented) The method of claim 41, in which the proximal and distal pad specimen contacting surfaces are inclined relative to the support surface.

57. (Previously presented) The method of claim 41, in which the distal pad and the distal backstop portions are operatively associated such that they form a unitary structure.

58. (Previously presented) The method of claim 41, in which the specimen is of a particular type and in which each of the proximal and distal pad specimen contacting surfaces is made of a material that keeps within acceptable limits for the particular type of specimen gripped any contaminants generated during the relative motion.

59. (Previously presented) The method of claim 58, in which the material of which each of the proximal and distal pad specimen contacting surfaces is made includes polyetheretherketone.

60. (Previously presented) The method of claim 41, in which the specimen contact mechanism comprises a specimen contact actuator that includes a biasing device and a force applying device, the biasing device applying a biasing force to urge the specimen contact mechanism to the specimen-securing position and the force applying device selectively overcoming the biasing force to urge the specimen contact mechanism to the specimen-releasing position.

61. (Previously presented) The method of claim 60, further comprising a position indicator operatively connected to the specimen contact actuator and operatively associated with a pair of spaced-apart reference position indicating devices, each reference position indicating device monitoring movement of the specimen contact actuator to indicate a specimen-releasing limit position and a specimen-securing limit position with no specimen gripped.

62. (Previously presented) The method of claim 41, in which the specimen contact mechanism comprises a specimen contact actuator that includes a biasing device applying a biasing force to cause the specimen contact mechanism to attain the specimen-securing position in event of loss of facilities to operate the specimen contact mechanism.

63. (Previously presented) The method of claim 62, in which the specimen contact actuator further includes a fluidic pressure-controlled device selectively overcoming the biasing force to cause the specimen contact mechanism to attain the specimen-releasing position.

64. (Previously presented) A method of removing from a specimen holder a specimen having a peripheral edge, the specimen holder constructed to hold multiple

specimens in closely spaced apart slots including a lowermost slot, each of which slots configured to contain one of multiple specimens stacked generally parallel to one another, comprising:

providing an end effector that is movable in first and second different directions, the end effector including a support surface and having proximal and distal ends, the support surface having near the proximal end a proximal pad portion and near the distal end a distal pad portion, the proximal and distal pad portions having respective proximal and distal pad specimen contacting surfaces, and the distal pad portion operatively associated with a distal backstop portion having a distal backstop specimen contacting surface, and the end effector including a specimen contact mechanism located nearer to the proximal end than to the distal end and actuatable between a specimen-releasing position and a specimen-securing position established by the peripheral edge of the specimen;

actuating the specimen contact mechanism toward the specimen-releasing position to provide sufficient clearance for placement of the specimen on the proximal and distal pad specimen contacting surfaces;

moving the end effector in the first direction to a location that is between either adjacent slots or below the lowermost slot and that positions the support surface adjacent the specimen, the end effector after movement to the location defining a space between the specimen and the proximal and distal pad specimen contacting surfaces;

moving the end effector in the second direction to eliminate the space between the specimen and the proximal and distal pad specimen contacting surfaces and thereby cause the peripheral edge of the specimen to rest on the proximal and distal pad specimen contacting surfaces;

moving the end effector out of the specimen holder to remove the specimen; and

actuating the specimen contact mechanism toward the specimen-securing position to grip the specimen by applying a motive force against the specimen to impart relative motion between it and the proximal and distal pad specimen contacting surfaces and thereby urge the peripheral edge near the distal end against the distal backstop specimen contacting surface.

65. (Previously presented) The method of claim 64, in which the distal pad specimen contacting surface is inclined in a direction relative to the support surface such that the peripheral edge of the specimen at rest on the distal pad specimen contacting

surface moves away from the support surface in response to the motive force applied against the specimen.

66. (Previously presented) The method of claim 65, in which:

the specimen has upper and lower surfaces and the lower surface is closer than the upper surface to the support surface when the specimen is at rest on the proximal and distal pad specimen contacting surfaces; and

the distal pad specimen contacting surface is inclined by an amount that results in substantially no contact between the distal pad specimen contacting surface and the lower surface of the specimen when the specimen contact mechanism urges the peripheral edge near the distal end against the distal backstop specimen contacting surface.

67. (Previously presented) The method of claim 65, which:

the distal backstop portion is one of multiple distal backstop portions, each of which having a distal backstop specimen contacting surface; and

the distal backstop specimen contacting surfaces are arranged to establish lateral center-positioning of the specimen when the specimen contact mechanism urges the peripheral edge near the distal end against the distal backstop specimen contacting surfaces.

68. (Previously presented) The method of claim 67, in which the distal pad portion is one of multiple distal pad portions, each of which having a distal pad specimen contacting surface that is inclined in a direction relative to the support surface such that the peripheral edge of the specimen at rest on the distal pad specimen contacting surface moves away from the support surface in response to the motive force applied against the specimen.

69. (Previously presented) The method of claim 64, in which:

the specimen has upper and lower surfaces and the distal backstop portion has a height, the lower surface being closer than the upper surface to the support surface when the specimen is at rest on the proximal and distal pad specimen contacting surfaces; and

the height of the distal backstop portion ranges in size from substantially reaching to not extending substantially beyond the upper surface of the specimen when the specimen contact mechanism urges the peripheral edge near the distal end against the distal backstop specimen contacting surface.

70. (Previously presented) The method of claim 64, in which the specimen is a 300 mm semiconductor wafer.

71. (Previously presented) The method of claim 64, in which the specimen contact mechanism includes a proximal end contact point having a face portion that is inclined to impart to the specimen a motive force component directed toward the proximal pad specimen contacting surface.

72. (Previously presented) The method of claim 64, in which the moving of the end effector in the first direction to the location positions the distal backstop specimen contacting surface in spaced-apart relationship from the peripheral edge of the specimen.

73. (Previously presented) The method of claim 64, in which the specimen is of a particular type and in which each of the proximal and distal pad specimen contacting surfaces is made of a material that keeps within acceptable limits for the particular type of specimen gripped any contaminants generated during the relative motion.

74. (Previously presented) The method of claim 73, in which the material of which each of the proximal and distal pad specimen contacting surfaces is made includes polyetheretherketone.

75. (Previously presented) The method of claim 73, in which the proximal pad specimen contacting surface is inclined relative to the support surface.

76. (Previously presented) The method of claim 64, in which the proximal and distal pad portions are attached to the support surface.

77. (Previously presented) The method of claim 64, in which the proximal and distal pad specimen contacting surfaces are inclined relative to the support surface.

78. (Previously presented) The method of claim 64, in which the peripheral edge of the specimen includes a segment of arcuate shape, and in which the distal backstop portion has a distal backstop specimen contacting surface of a shape that conforms to the arcuate shape of the segment of the peripheral edge of the specimen.

79. (Previously presented) The method of claim 78, in which the distal backstop specimen contacting surface is of arcuate shape.

80. (Previously presented) A specimen edge gripping device that is adapted for operable coupling to a mechanism and gripping a specimen by its peripheral edge having a segment of arcuate shape, comprising:

a body having a support surface, a proximal end, and a distal end;

the support surface having near the distal end a distal pad portion for supporting the peripheral edge of the specimen and a distal backstop portion operatively associated with the distal pad portion, the distal pad portion having a distal pad specimen contacting surface that is inclined in a direction relative to the support surface, and the distal backstop

portion having a distal backstop specimen contacting surface of a shape that conforms to the arcuate shape of the segment of the peripheral edge of the specimen;

the support surface having near the proximal end a proximal pad portion for supporting the peripheral edge of the specimen, the proximal pad portion having a proximal pad specimen contacting surface; and

a specimen contact mechanism located nearer to the proximal end than to the distal end and actuatable between a specimen-releasing position and a specimen-securing position established by the peripheral edge of the specimen, the specimen-releasing position providing sufficient clearance for placement of the specimen on the proximal and distal pad specimen contacting surfaces, the actuation from the specimen-releasing position to the specimen-securing position moving away from the support surface the peripheral edge of the specimen placed on the inclined distal pad specimen contacting surface, and the specimen-securing position urging the specimen so that the peripheral edge segment of arcuate shape presses against the distal backstop and distal pad specimen contacting surfaces to grip the specimen by its peripheral edge.

81. (Previously presented) The specimen edge-gripping device of claim 80, in which the specimen has upper and lower surfaces and the distal backstop portion has a height, the lower surface being closer than the upper surface to the support surface when the specimen is placed on the proximal and distal pad specimen contacting surfaces, and the height of the distal backstop portion ranges in size from substantially reaching to not extending substantially beyond the upper surface of the specimen when gripped.

82. (Previously presented) The specimen edge-gripping device of claim 80, in which the proximal pad specimen contacting surface is inclined in a direction relative to the support surface such that the actuation from the specimen-releasing position to the specimen-securing position moves toward the support surface the peripheral edge of the specimen placed on the inclined proximal pad specimen contacting surface.

83. (Previously presented) The specimen edge-gripping device of claim 82, in which the specimen has upper and lower surfaces and the distal backstop portion has a height, the lower surface being closer than the upper surface to the support surface when the specimen is placed on the proximal and distal pad specimen contacting surfaces, and the height of the distal backstop portion ranges in size from substantially reaching to not extending substantially beyond the upper surface of the specimen when gripped.

84. (Previously presented) The specimen edge-gripping device of claim 80, in which the specimen contact mechanism includes a proximal end contact point having a

face portion that is inclined to impart to the specimen a motive force component directed toward the proximal pad specimen contacting surface.

85. (Previously presented) The specimen edge-gripping device of claim 80, in which the specimen is made of a particular material and in which each of the proximal and distal pad specimen contacting surfaces is made of a material that restricts, to within acceptable limits for the particular specimen material, contamination generated as the specimen is urged to press the peripheral edge segment of arcuate shape against the distal backstop and distal pad specimen contacting surfaces.

86. (Previously presented) The specimen edge-gripping device of claim 85, in which the material of which each of the proximal and distal pad specimen contacting surfaces is made includes polyetheretherketone.

87. (Previously presented) The specimen edge-gripping device of claim 80, in which the specimen contact mechanism comprises a specimen contact actuator that includes a biasing device and a force applying device, the biasing device applying a biasing force to urge the specimen contact mechanism to the specimen-securing position and the force applying device selectively overcoming the biasing force to urge the specimen contact mechanism to the specimen-releasing position.

88. (Previously presented) The specimen edge-gripping device of claim 80, in which the specimen contact mechanism comprises a specimen contact actuator that includes a biasing device applying a biasing force to cause the specimen contact mechanism to attain the specimen-securing position in event of loss of facilities to operate the specimen contact mechanism.

89. (Previously presented) The method of claim 80, in which:

the specimen has upper and lower surfaces and the lower surface is closer than the upper surface to the support surface when the specimen is placed on the proximal and distal pad specimen contacting surfaces; and

the distal pad specimen contacting surface is inclined by an amount that results in substantially no contact between the distal pad specimen contacting surface and the lower surface of the specimen when the specimen contact mechanism urges the specimen so that the peripheral edge segment presses against the distal backstop and distal pad specimen contacting surfaces.

90. (Previously presented) A specimen edge-gripping device that is adapted for operable coupling to a mechanism and gripping a specimen by its peripheral edge, comprising:

a body having a support surface, a proximal end, and a distal end;

the support surface having near the distal end a distal pad portion for supporting the peripheral edge of the specimen and multiple distal backstop portions operatively associated with the distal pad portion, the distal pad portion having a distal pad specimen contacting surface that is inclined in a direction relative to the support surface, and the distal backstop portions having distal backstop specimen contacting surfaces arranged to establish lateral center-positioning of the specimen when its peripheral edge is gripped;

the support surface having near the proximal end a proximal pad portion for supporting the peripheral edge of the specimen, the proximal pad portion having a proximal pad specimen contacting surface; and

a specimen contact mechanism located nearer to the proximal end than to the distal end and actuatable between a specimen-releasing position and a specimen-securing position established by the peripheral edge of the specimen, the specimen-releasing position providing sufficient clearance for placement of the specimen on the proximal and distal pad specimen contacting surfaces, the actuation from the specimen-releasing position to the specimen-securing position moving away from the support surface the peripheral edge of the specimen placed on the inclined distal pad specimen contacting surface, and the specimen-securing position urging the specimen so that different portions of the peripheral edge press against the distal backstop and distal pad specimen contacting surfaces to grip the specimen by its peripheral edge.

91. (Previously presented) The specimen edge-gripping device of claim 90, in which the specimen has upper and lower surfaces and each of the multiple distal backstop portions has a height, the lower surface being closer than the upper surface to the support surface when the specimen is placed on the proximal and distal pad specimen contacting surfaces, and the height of each of the multiple distal backstop portions ranges in size from substantially reaching to not extending substantially beyond the upper surface of the specimen when gripped.

92. (Previously presented) The specimen edge-gripping device of claim 90, in which the proximal pad specimen contacting surface is inclined in a direction relative to the support surface such that the actuation from the specimen-releasing position to the specimen-securing position moves toward the support surface the peripheral edge of the specimen placed on the inclined proximal pad specimen contacting surface.

93. (Previously presented) The specimen edge-gripping device of claim 92, in which the specimen has upper and lower surfaces and each of the multiple distal backstop

portions has a height, the lower surface being closer than the upper surface to the support surface when the specimen is placed on the proximal and distal pad specimen contacting surfaces, and the height of each of the multiple distal backstop portions ranges in size from substantially reaching to not extending substantially beyond the upper surface of the specimen when gripped.

94. (Previously presented) The specimen edge-gripping device of claim 90, in which the distal pad portion is one of multiple distal pad portions, each of which having a distal pad specimen contacting surface that is inclined in a direction relative to the support surface such that the actuation from the specimen-releasing position to the specimen-securing position moves away from the support surface the peripheral edge of the specimen placed on the inclined distal pad specimen contacting surfaces.

95. (Previously presented) The specimen edge-gripping device of claim 90, in which the specimen contact mechanism includes a proximal end contact point having a face portion that is inclined to impart to the specimen a motive force component directed toward the proximal pad specimen contacting surface.

96. (Previously presented) The specimen edge-gripping device of claim 90, in which the specimen is made of a particular material and in which each of the proximal and distal pad specimen contacting surfaces is made of a material that restricts to within acceptable limits for the particular specimen material the degree of contamination generated as the peripheral edge of the specimen is urged to press the different portions of the peripheral edge against the distal backstop and distal pad specimen contacting surfaces.

97. (Previously presented) The specimen edge-gripping device of claim 96, in which the material of which each of the proximal and distal pad specimen contacting surfaces is made includes polyetheretherketone.

98. (Previously presented) The specimen edge-gripping device of claim 90, in which the specimen contact mechanism comprises a specimen contact actuator that includes a biasing device and a force applying device, the biasing device applying a biasing force to urge the specimen contact mechanism to the specimen-securing position and the force applying device selectively overcoming the biasing force to urge the specimen contact mechanism to the specimen-releasing position.

99. (Previously presented) The specimen edge-gripping device of claim 90, in which the specimen contact mechanism comprises a specimen contact actuator that includes a biasing device applying a biasing force to cause the specimen contact

mechanism to attain the specimen-securing position in the absence of facilities to operate the specimen contact mechanism.

100. (Previously presented) The method of claim 90, in which:

the specimen has upper and lower surfaces and the lower surface is closer than the upper surface to the support surface when the specimen is placed on the proximal and distal pad specimen contacting surfaces; and

the distal pad specimen contacting surface is inclined by an amount that results in substantially no contact between the distal pad specimen contacting surface and the lower surface of the specimen when the specimen contact mechanism urges the specimen so that the different portions of the peripheral edge press against the distal backstop and distal pad specimen contacting surfaces.

101. (Previously presented) A specimen edge-gripping device that is adapted for operable coupling to a mechanism and gripping a specimen by its peripheral edge, the specimen having upper and lower surfaces, comprising:

a body having a support surface, a proximal end, and a distal end;

the support surface having near the distal end a distal pad portion for supporting the peripheral edge of the specimen and a distal backstop portion operatively associated with the distal pad portion, the distal pad portion having a distal pad specimen contacting surface, and the distal backstop portion having a height and a distal backstop specimen contacting surface of a shape that contributes to lateral center-positioning of the specimen when its peripheral edge is gripped;

the support surface having near the proximal end a proximal pad portion for supporting the peripheral edge of the specimen, the proximal pad portion having a proximal pad specimen contacting surface; and

a specimen contact mechanism located nearer to the proximal end than to the distal end and actuatable between a specimen-releasing position and a specimen-securing position established by the peripheral edge of the specimen, the specimen-releasing position providing sufficient clearance for placement of the specimen on the proximal and distal pad specimen contacting surfaces and the specimen-securing position urging the specimen placed on the proximal and the distal pad specimen contacting surfaces so that a portion of the peripheral edge presses against the distal backstop specimen contacting surface to grip the specimen by its peripheral edge, the height of the distal backstop portion ranging in size from substantially reaching to not extending substantially beyond the upper surface of the specimen when gripped.

102. (Previously presented) The specimen edge-gripping device of claim 101, in which the distal pad specimen contacting surface is inclined in a direction relative to the support surface such that the peripheral edge of the specimen placed on the distal pad specimen contacting surface moves away from the support surface during actuation from the specimen-releasing position to the specimen-securing position.

103. (Previously presented) The specimen edge-gripping device of claim 101, in which the specimen contact mechanism includes a proximal end contact point having a face portion that is inclined to impart to the specimen a motive force component directed toward the proximal pad specimen contacting surface.

104. (Previously presented) The specimen edge-gripping device of claim 101, in which the specimen is made of a particular material and in which each of the distal pad specimen contacting surfaces is made of a material that restricts, to within acceptable limits for the particular specimen material, contamination generated as the peripheral edge of the specimen is urged to press the portion of the peripheral edge against the distal backstop and distal pad specimen contacting surfaces.

105. (Previously presented) The specimen edge-gripping device of claim 104, in which the material of which each of the proximal and distal pad specimen contacting surfaces is made includes polyetheretherketone.

106. (Previously presented) The specimen edge-gripping device of claim 101, in which the specimen contact mechanism comprises a specimen contact actuator that includes a biasing device and a force applying device, the biasing device applying a biasing force to urge the specimen contact mechanism to the specimen-securing position and the force applying device selectively overcoming the biasing force to urge the specimen contact mechanism to the specimen-releasing position.

107. (Previously presented) The specimen edge-gripping device of claim 101, in which the specimen contact mechanism comprises a specimen contact actuator that includes a biasing device applying a biasing force to cause the specimen contact mechanism to attain the specimen-securing position in event of loss of facilities to operate the specimen contact mechanism.

108. (Previously presented) The method of claim 101, in which:

the distal pad specimen contacting surface is inclined in a direction relative to the support surface such that the actuation from the specimen-releasing position to the specimen-securing position moves away from the support surface the peripheral edge of the specimen placed on the inclined distal pad specimen contacting surface;

the specimen has upper and lower surfaces and the lower surface is closer than the upper surface to the support surface when the specimen is placed on the proximal and distal pad specimen contacting surfaces; and

the distal pad specimen contacting surface is inclined by an amount that results in substantially no contact between the distal pad specimen contacting surface and the lower surface of the specimen when the specimen contact mechanism urges the specimen so that the portion of the peripheral edge presses against the distal backstop specimen contacting surface.